

IN THE CLAIMS:

1. (currently amended) A first-side optical data storage disk comprising:
  - a single substrate having first and second principal surfaces;
  - a first metal/alloy layer overlying the first principal surface of the substrate;
  - a first transparent layer overlying the first metal/alloy layer; and
  - a second metal/alloy layer overlying the first transparent layer; the first-side optical data storage disk being distinguished from second-surface optical disks by the absence of an additional substrate overlaying the second metal/alloy layer having a thickness sufficient to defocus dust particles with respect to a laser beam reading either the first or second metal/alloy layer without passing through the single substrate.
2. (original) The first-side optical data storage disk of Claim 1 wherein said first principal surface of said substrate comprises premastered data which includes a series of pits and/or bumps, said first metal/alloy layer conforming to the shape of said pits and/or bumps.
- 3 (original) The first-side optical data storage disk of Claim 2 wherein the transmissivity of said second metal/alloy layer at the wavelength of said laser beam is greater than 10%.
4. (original) The first-side optical data storage disk of Claim 2 wherein said first metal/alloy layer contains a writeable area.
5. (original) The first-side optical data storage disk of Claim 1 wherein said first metal/alloy layer contains a writeable area.

LAW OFFICES OF  
MACPHERSON KWOK CHEN &  
HEID CO.  
2402 MCELROY DRIVE  
SUITE 210  
IRVINE CA 92612  
(714) 752-7040  
FAX (714) 752-7049

6. (original) The first-side optical data storage disk of Claim 5 wherein the transmissivity of said second metal/alloy layer at the wavelength of said laser beam is in the range of 25% to 50%.
7. (original) The first-side optical data storage disk of Claim 5 wherein said second metal/alloy layer contains a writeable area.
8. (original) The first-side optical data storage disk of Claim 1 wherein said second metal/alloy layer comprises premastered data which includes a series of pits and/or bumps.
9. (original) The first-side optical data storage disk of Claim 1 wherein said second metal/alloy layer contains a writeable area.
10. (original) The first-side optical data storage disk of Claim 1 wherein said first metal/alloy layer comprises aluminum.
11. (original) The first-side optical data storage disk of Claim 10 wherein said second metal/alloy layer comprises SbInSn.
12. (currently amended) The first-side optical data storage disk of Claim 1 comprising:
  - a third metal/alloy layer underlying said second principal surface of said single substrate;
  - a second transparent layer underlying said third metal/alloy layer, the second transparent layer having a thickness of greater than 15 microns; and
  - a fourth metal/alloy layer underlying said second transparent layer; and

LAW OFFICES OF  
MACPHERSON KWOK CHEN &  
HARD LLP  
2402 MICHELSON DRIVE  
SUITE 210  
IRVINE CA 92612  
(949) 752-7040  
FAX (949) 752-7049

~~a second optical coupling layer overlying the fourth metal/alloy layer, wherein the thickness of the second optical coupling layer is substantially less than the thickness of the second transparent layer, the first side optical disk having an absence of additional layers underlying the second optical coating such that the second optical coupling layer functions to optically couple the fourth metal/alloy later to the first side optical disk's operating environment.~~

13. (original) The first-side optical data storage disk of Claim 12 wherein said second principal surface of said substrate comprises premastered data which includes a series of pits and/or bumps in said substrate, said third metal/alloy layer conforming to the shape of said pits and/or bumps.

14. (original) The first-side optical data storage disk of Claim 13 wherein said third metal/alloy layer contains a writeable area.

15. (original) The first-side optical data storage disk of Claim 12 wherein said second metal/alloy layer comprises premastered data which includes a series of pits and/or bumps.

16. (original) The first-side optical data storage disk of Claim 15 wherein said second metal/alloy layer contains a writeable area.

17. (original) The first-side optical data storage disk of Claim 13 wherein said second metal/alloy layer contains a writeable area.

LAW OFFICES OF  
MACPHERSON KWOK CHEN &  
HEED LLP  
2402 MICHELSON DRIVE  
SUITE 210  
IRVINE CA 92612  
(949) 752-7040  
FAX (949) 752-7049

18. (currently amended) The first-side optical data storage disk of Claim 1 wherein said single substrate comprises polycarbonate.

19. (original) The first-side optical data storage disk of Claim 1 wherein said first transparent layer comprises a photopolymer resin.

20. (original) The first-side optical data storage disk of Claim 1 wherein said first transparent layer comprises a curable polymer.

21. (original) The first-side optical data storage disk of Claim 1 wherein said first transparent layer comprises a UV curable material.

22. (original) The first-side optical data storage disk of Claim 1 wherein said substrate has a thickness in the range of 200 to 1000  $\mu\text{m}$ .

23. (original) The first-side optical data storage disk of Claim 22 wherein said substrate has a thickness of approximately 500  $\mu\text{m}$ .

24. (original) The first-side optical data storage disk of Claim 1 wherein said first transparent layer has a thickness in the range of 15 to 200  $\mu\text{m}$ .

25. (original) The first-side optical data storage disk of Claim 24 wherein said first transparent layer has a thickness of approximately 50  $\mu\text{m}$ .

LAW OFFICES OF  
MACPHERSON KWOK CHEN &  
HEID LAW  
2402 MICHELSON DRIVE  
SUITE 210  
IRVING CA 92612  
(949) 752-7040  
FAX (949) 752-7040

26. (original) The first-side optical data storage disk of Claim 1 comprising a protective coating between said first metal/alloy layer and said first transparent layer.

27. (cancelled)

28. (cancelled)

29. (cancelled)

30. (original) The first-side optical data storage disk of Claim 1 wherein the reflectivity of said first and second metal/alloy layers at the wavelength of said laser beam is greater than 25%.

31. (original) The first-side optical data storage disk of Claim 1 wherein said disk is less than 50 mm in diameter.

32. (original) The first-side optical data storage disk of Claim 31 wherein said disk is at or below 32 mm in diameter.

33. (original) The first-side optical data storage disk of Claim 1 wherein said first metal/alloy layer is a read-only layer and said second metal/alloy layer comprises a writeable area, said writeable area comprising a code which permits access to a portion of data recorded on the first metal/alloy layer.

LAW OFFICES OF  
MACPHERSON KWOK CHEN &  
HEID LLP  
2402 MICHELSON DRIVE  
SUITE 210  
IRVINE CA 92612  
(714) 752-7040  
FAX (714) 752-7049

34. (original) The first-side optical data storage disk of Claim 33 wherein said coded permits access to a portion of data recorded on the second metal/alloy layer.

35. (currently amended) A method of reading data comprising:

providing an first-side optical disk including:

a single substrate having first and second principal surfaces;

a first metal/alloy layer overlying the first principal surface of said substrate;

a first transparent layer overlying the first metal/alloy layer, the first transparent layer having a thickness of greater than 15 microns;

a second metal/alloy layer overlying the first transparent layer; the first-side optical data storage disk being distinguished from second-surface optical disks by the absence of an additional substrate overlaying the second metal/alloy layer having a thickness sufficient to defocus dust particles;

directing a laser beam from above the principal surface of the substrate towards the first and second metal/alloy layers such that the laser beam is partially reflected from and partially transmitted through the second metal/alloy layer;

detecting a first portion of the laser beam that is reflected from the first metal/alloy layer; and

detecting a second portion of the laser beam that is reflected from the second metal alloy layer.

Claims 36-57. (cancelled)

LAW OFFICES OF  
MACPHERSON KWOK CHEN &  
HEED LLP  
2402 MICHELSON DRIVE  
SUITE 710  
IRVINE CA 92612  
(949) 752-7040  
FAX (949) 752-7049

Claim 58 (new). The first-side optical data storage disk of claim 1, further comprising:

an optical coupling layer overlaying the second metal/alloy layer.